

Alliance for Water Efficiency Learning Landscapes



2021 Grant Program Report



April 2022

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Acknowledgement

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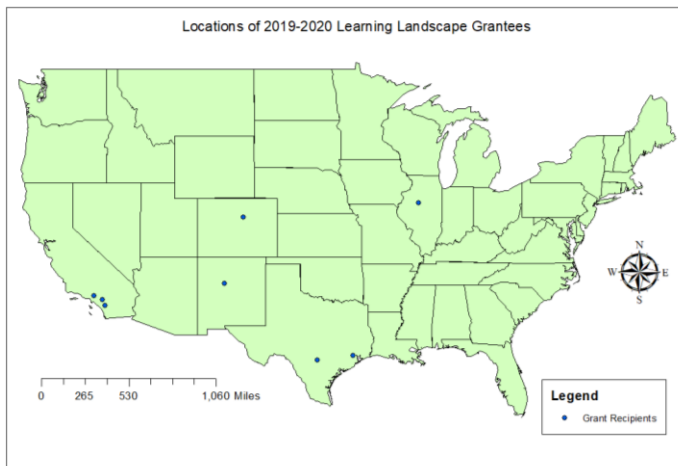
Cover photo provided by Amigos de los Rios.

Background

In 2019, the Alliance for Water Efficiency commenced its inaugural Learning Landscape Grant Program with funding from The Scotts Miracle-Gro Foundation. The grant helps support building or improving educational outdoor spaces at schools, botanical gardens, and community locations that allow school-age children to experience hands-on, applied learning about water efficiency in outdoor landscapes. In addition to the creation of the grant program, AWE released a series of complementary Learning Landscape Lessons that are publicly available to all educators. The lessons focus on outdoor water efficiency and align with Next Generation Science Standards for grades 3-8.

After a competitive application process, AWE awarded grants, each worth \$5,000, to eight different schools/organizations whose applications outlined projects that would provide exceptional educational value and water efficiency benefits to their respective communities. The projects were scheduled for completion in 2020, but the pandemic created delays. This report summarizes six of the projects that were completed in 2021. The other two projects have been further delayed due to the pandemic and other factors.

- Amigos de los Rios, Altadena, CA
- City of Houston, Houston, TX
- Ciudad Soil and Water Conservation District, Albuquerque, NM
- Denver Urban Gardens/Bradley International School, Denver, CO
- Edwards Aquifer Conservancy, San Antonio, TX
- Oak Grove School District #68, Bartonville, IL
- Pala Environmental Department, Pala Band of Mission Indians, Pala, CA
- Riverside-Corona Resource Conservation District, Riverside, CA



Amigos de los Rios

Organization Profile: Amigos de Los Rios is a nonprofit organization dedicated to creating an “Emerald Necklace” of green infrastructure (such as parks, trails, greenways, green schools, etc.) in underserved areas of the Los Angeles basin that connect the San Gabriel Mountains to the Pacific Ocean.

Project Description: Amigos de Los Rios worked to revitalize the grass-sloped courtyard at Jackson STEM Dual Language Magnet Academy in Altadena, CA. The project transformed the courtyard into a water efficient educational space by installing native habitat landscaping along with revitalizing and sculpting the soil into terraces so it can capture and infiltrate stormwater. Additionally, outdoor seating areas were used to turn the courtyard into an educational space to instruct students on sustainable landscapes and stormwater capture.

Water Efficiency/Conservation Elements: For the courtyard revitalization, Amigos de Los Rios removed water-intensive non-native grass lawn, improved the soil quality, and re-graded the land to form a series of water-capturing terraces of mounds and depressions. Furthermore, Amigos de Los Rios installed rain boxes, gravel infiltration areas and planted drought-tolerant water-efficient native trees and shrubs. The revitalized courtyard will save the differential cost of watering approximately 2,048 square feet of non-native water-intensive grasses.

Usage of AWE Learning Landscape Lessons: Jackson STEM Dual Language Magnet academy utilized Lesson 1: Our Water Pages and Lesson 2: Planting for Our Climate, and now plan to teach Learning Landscape curriculum in their newly renovated outdoor landscape.

Number of Students Reached: 280 students from 16 schools

Additional Benefits: A recent CalEPA study found that eastern Los Angeles County, where Jackson STEM Dual Language Magnet Academy is located, had the worst urban heat island impacts in the state, raising temperatures as much as 18 degrees Fahrenheit. Establishing a waterwise landscape with trees and other natural elements will help keep the courtyard and nearby playground cool and reduce urban heat island impacts on the school community.

“This simple process was so uplifting it sparked a desire to transform the entire school to model high-performance natural infrastructure. After implementing the AWE Learning Landscape garden, interest built within the school community to more comprehensively transform the entire site.” – Claire Robinson, Altadena, CA



Ciudad Soil and Water Conservation District

Organization Profile: Ciudad Soil and Water Conservation District (Ciudad SWCD) promotes conservation and stewardship of the natural resources in rural and urban lands in Albuquerque, NM, and other nearby communities.

Project Description: Ciudad SWCD used the grant money to fund a Rainwater Harvesting Learning Landscape for the Gutiérrez Hubbell House, a community gathering space and educational center in Albuquerque, New Mexico. The project was featured extensively in a series of instructional videos that educate viewers on residential-scale rainwater harvesting. Additionally, Ciudad SWCD educators conducted virtual site visits of the Rainwater Harvesting Learning Landscape for local elementary school students to explain the importance of rainwater harvesting.

Water Efficiency/Conservation Elements: The Rainwater Harvesting Learning Landscape incorporated a variety of water conservation elements. The project employs cobbled swale to direct roof runoff to a rainwater harvesting basin that is filled with highly permeable soil and covered with mulch to enhance infiltration and reduce evaporation. The captured water supports a variety of drought adapted native plants through a water-efficient drip irrigation system to support plants during establishment and periods of drought. Ciudad SWCD estimates that their new rainwater harvesting system will save 12,150 gallons annually if the rainwater is used to offset irrigation with potable water.

Usage of AWE Learning Landscape Lessons: Ciudad SWCD used Lesson 3: Our Great Outdoors and Water Use to educate eight different local elementary school classrooms about the rainwater harvesting system

Number of Students Reached: 212 students

Additional Benefits: Thirteen different educational videos on the design, installation, and maintenance of residential-scale rainwater harvesting are available to the public on the [Bernalillo County Website](#).

“Our project is a great example of the potential of the Alliance for Water Efficiency grant to provide a lasting resource in a community around a variety of important topics that relate to water efficiency, water quality, drought tolerance, soil regeneration and watershed health.” – Astrid Hueglin, Albuquerque, NM



Heather Regan Memorial Community Garden at Bradley International School

Organization Profile: The Heather Regan Memorial Garden is a Denver Urban Garden (DUG) community garden that supports people through sustainable food production. This garden is located at Bradley International School, an International Baccalaureate (IB) elementary school located in Denver, Colorado. The school strives to teach a curriculum of intercultural understanding and respect, and provides free or reduced lunches to almost 40% of students.

Project Description: Bradley International School and DUG worked together to create a new native perennial waterwise landscape at the Heather Regan Memorial Community Garden, install automated soaker hose water systems to reduce over-watering and water runoff in the Garden's community vegetable plots, and incorporate a new rainwater harvesting system for the garden shed.

Water Efficiency/Conservation Elements: The new landscape in the Heather Regan Community Garden included native, water-efficient plants, cedar mulch to hold water in the soil, a drip water irrigation system and automatic water timers, which all help reduce total water consumption. The newly installed soaker water hose delivery system reduced water waste in the vegetable plots, while the addition of rainwater harvesting systems allow for the storage of water that can be used to sustain the vegetable plots in bad droughts or other emergencies.

Usage of AWE Learning Landscape Lessons: Bradley International chose to teach Lesson 1: Our Water to their students because they thought it was the best lesson to teach their young students about the value of water and how much water is used every day in American culture. Additionally, Bradley International School included Learning Landscape Lesson messaging in their garden signage and in educational brochures.

Number of Students Reached: 15 students helped build the Learning Landscape in the garden, and when school starts, approximately 580 students will get to learn and experience the new garden firsthand.

The AWE grant has transformed the space into a place that children can be a part of and be proud of. – Erin Mattison, Denver, CO

Additional Benefits: The Helen Regan Community Garden sustainably grows produce to support members of the local community. The new water efficiency and conservation improvements to the vegetable plots will help the community garden to continue ample food production during drought, allowing the community garden to better support the people that rely on it during tough times.



Oak Grove School District #68

Organization Profile: Oak Grove School District #68 is a public-school district serving kindergarten through eighth grade students in Bartonville, a suburb of Peoria, Illinois.

Project Description: Oak Grove revitalized an outdoor space on their school property for students to better enjoy. The school planted water efficient plants in six raised planter boxes, each representing plants chosen by a different grade level, to beautify their outdoor space. Oak Grove also used rainwater barrels as part of their project to establish their plants.

Water Efficiency/Conservation Elements: Oak Grove’s rainwater barrels capture and house about 200 gallons of rain water, and the captured water is used for the new plants. Oak Grove estimated they save about 27 gallons of water per day that would otherwise come from the tap if they did not have the rainwater barrels.

Usage of AWE Learning Landscape Lessons: Teachers in all grade levels went through the entire Learning Landscape curriculum with the students, providing them with a comprehensive education on water efficiency

Number of Students Reached: 240-250 students.

Additional Benefits: Now that the planting project is complete, Oak Grove plans to incorporate weeding and watering into the service project program at the school as a way to continue the successful hands-on project with students and to teach them the importance of maintaining outdoor landscapes.

“Numerous parents have talked to me about how their students are (now) excited about gardening and water conservation in their own home.” – Loren Baele, Bartonville, IL



Pala Environmental Department, Pala Band of Mission Indians

Organization Profile: The Pala Environmental Department (PED) represents the Pala Tribe in preserving and protecting the various natural resources found on the reservation. PED also conducts community outreach programs for the youth population.

Project Description: PED started a community garden for the tribal community to utilize. The garden is also used to conduct community outreach about important topics such as water conservation, pollinator importance, composting, traditional medicinal/cultural plantings, and food sovereignty. PED has used the community garden to host tree planting events and other activities such as a pollinator scavenger hunt, specifically aimed to help educate tribal youth.

Water Efficiency/Conservation Elements: In addition to planting native, water efficient plots, all of the trees and raised beds in the community garden are on drip irrigation lines, which use substantially less water than traditional watering methods. The watering system in the center of the garden is an automated overhead spray nozzle, designed to mimic rain and only use the minimum amount of water needed for the native plants to survive.

Usage of AWE Learning Landscape Lessons: PED utilized Lesson 3: Our Great Outdoors and Water Use, because it was the best way to introduce the students to all of the various topics, such as where Pala’s water comes from, how they use it, and how native/waterwise plants can help both pollinator insects and our community to mitigate the effects of climate change.

“It has been wonderful to see how excited these kids are to play in the plants and hunt around for various insects, and just how receptive they are to learning science lessons.” – Heidi Brow, Pala, CA

Number of Students Reached: 75 students

Additional Benefits: PED has already seen numerous pollinators, birds, and insects make the community garden their new home. PED also has established a garden crew of local kids and parents who help with stewardship of the new community garden.

Community Impact: PED has used this grant as an opportunity to educate tribal adults and families about environmental sustainability and water efficiency. PED has hosted zoom workshops that teach these tribal members how to compost and how to construct their own waterwise garden at home.



Riverside-Corona Resource Conservation District

Organization Profile: The Riverside-Corona Resource Conservation District (RCRCD) is a local government agency that helps conserve the natural resources (soil, water, plants, and wildlife) of areas within western Riverside and San Bernardino Counties in southern California.

Project Description: RCRCD used the Learning Lesson Grant to fund a virtual water education program and establish a variety of waterwise plants in the LandUse Learning Center (LLC), a demonstration garden depicting sustainable practices for local land use in Riverside, CA. The virtual program included information about the Santa Ana Watershed and hands-on activity suggestions and demonstrations. A promotional video for the program can be viewed on YouTube [at this link](#). RCRCD's first virtual lesson is available [to view here](#), and RCRCD is continuing to expand their virtual education program.

Water Efficiency/Conservation Elements: When the LLC was closed during the pandemic, RCRCD staff had additional time to establish four different waterwise yards with water efficient plants, lawn alternatives, and an Arbor Trail with educational elements about climate change and urban forestry. Additionally, RCRCD spread compost and mulch, and maintained a low-flow irrigation system throughout the three-acre garden.

Usage of AWE Learning Landscape Lessons: RCRCD employed Lesson 3: Our Great Outdoor and Water Use for in-person education at the LLC. Content from all three Learning Landscapes Lessons were incorporated into the virtual water education program.

Number of Students Reached: Over 160 visitors from three different schools visited the improved LandUse Learning Center garden in the 6 weeks following re-opening.

Additional Benefits: RCRCD used the money from this grant to drastically expand their virtual educational program to include lessons on waterwise plants and water efficiency. RCRCD shared their newly-expanded virtual education program with over 175 teachers and educators at the Environmental Education Collaborative's symposium. This will help important water efficiency and conservation lessons to reach a much broader audience.



"This program inspired teachers at three schools to work with students to plan and install native plant gardens on their campuses." – Diana Ruiz, Riverside, CA

Educators:
Would you like to teach your class about water conservation?

Follow the adventures of Fancy Fin through the Stream

Sign up for a Water Conservation presentation that will engage your students and help create a more sustainable future!

What about Water? is a new, online educational program. It includes examples of hands-on activities, citizen science projects, information about our Santa Ana Watershed, and a variety of water-related resources. Watch to learn more: <https://www.youtube.com/watch?v=vwZv19M3og&list=PL>. If you would like a link to the online class, or a hands-on lesson at the LandUse Learning Center, please contact Resource Educator Erin Snyder at snyder@rcrcd.org or 951-683-7691 ext. 207.

RCRCD
Riverside-Corona Resource Conservation District
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